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## IN THE CLAIMS:

Please amend the claims as follows:

1-134. (Cancelled)

135. (Currently amended): A method of predicting the receptor-modulating

activity of a test compound when bound to a receptor, comprising the steps of:

(1) (a) providing an <u>unliganded</u> estrogen receptor;

(b) optionally contacting said unliganded estrogen receptor with a

plurality of reference compounds, said reference compounds known to modulate the

biological activity of said estrogen receptor, and wherein the unliganded estrogen

receptor or the binding of each reference compound to said estrogen receptor forms

a reference conformation, said plurality of reference compounds selected from the

group consisting of estradiol, estriol, nafoxidine, 4-OH tamoxifen, clomifene,

premarin, raloxifene, ICI 182,780, 16α-OH estrone, and progesterone;

(c) providing a panel comprising a plurality of members representing a

plurality of classes selected from the group consisting of ERa/βI, ERa/βII, ERa/βIII,

ERα/βΙV, ERαΙ, ERαΙΙ, ERαΙΙΙ, ER βΙ, ERβΙΙ, ERβΙΙΙ, wherein said members of said

panel possess differential ability to bind to said reference conformation;

(d) contacting said reference conformation with said panel;

(e) measuring the effect of said reference compound on the binding of

said panel members to said receptor, said measuring step forming a fingerprint for

each member of said plurality of reference compounds;

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- (2) (a) providing a test compound;
- (b) contacting said estrogen receptor with said test compound, wherein the binding of said test compound to said estrogen receptor forms a test conformation:
  - (c) contacting said test conformation with said panel;
- (d) measuring the effect of said test compound on the binding of said panel member; and
- (3) comparing the effect of said test compound on the binding of said panel member to said fingerprints to predict the receptor-modulating activity of said test compound when bound to said estrogen receptor.
- 136. (Previously presented) The method of claim 135, wherein said fingerprint for each member of said plurality of reference compounds comprises a plurality of panel-based descriptors, each panel-based descriptor characterizing the effect of said reference compound on the binding of a particular panel member to said receptor, said panel-based descriptors collectively characterizing the effect of said reference compound on the binding of all the panel members, individually, to said receptor.
- 137. (Previously presented) The method of claim 136, wherein said panel members are provided by a method which comprises:
  - (a) providing at least one ligand for the receptor;

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(b) screening a first combinatorial library comprising a plurality of members for

the ability to bind to the receptor in at least two different reference conformations;

including at least one ligand-bound conformation, and

(c) based on said screening, providing a panel of first library members, said

panel comprising members which differ with respect to their ability to binding to the

receptor, depending on its conformation.

138. (Previously presented) The method of claim 137, wherein a plurality of

different ligands are used.

139. (Previously presented) The method of claim 135, wherein said

biological activity of said reference compounds at said receptor is known for a

plurality of different tissues, so that the biological activity of said test compound in

said tissues is predicted.

140-141. (Cancelled).

142. (Previously presented) The method of claim 135, wherein said

reference compound is a pharmacological agonist or antagonist of said receptor.

143. (Previously presented) The method of claim 137, wherein said first

combinatorial library is an oligopeptide library.

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144. (Previously presented) The method of claim 135, wherein said test

compounds are provided and screened in the form of a combinatorial library.

145. (Previously presented) The method of claim 135, wherein said test

compound comprises an organic compound with a molecular weight of less than 500

daltons.

146. (Previously presented) The method of claim 135, wherein said

contacting steps are performed in vitro.

147. (Cancelled).

148. (Currently amended) The method of claim 135, wherein at least one

panel member is a peptide comprising Leu-Xaa-Xaa-Leu-Leu wherein Xaa

represents any naturally occurring amino acid.

149. (Previously presented) The method of claim 135, wherein at least one

panel member has a substantially higher affinity for ERα than for ERβ, and at least

one other panel member has a substantially higher affinity for ER\$\beta\$ than for ER\$\alpha\$.

150. (Previously presented) The method of claim 135, wherein at least one

panel member binds the receptor substantially more strongly when the receptor is

bound to estradiol then when the receptor is not so bound.

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151. (Previously presented) The method of claim 135, wherein at least one panel member binds the receptor substantially less strongly when the receptor is

bound to estradiol when it is not so bound.

152. (Previously presented) The method of claim 135, wherein said panel

comprises:

(1) at least one member with a substantilly higher affinity for ERβ than for

ERa, whose affinity is substantially greater for estradiol-bound ER than for

unliganded ER;

(2) at least one member with a substantially higher affinity for ERα than for

ERβ, whose affinity is substantially the same for estradiol-bound ER and for

unliganded ER;

(3) at least one member with a substantially higher affinity for ERα than for

ERβ, whose affinity is higher for estradiol-bound ERα than for unliganded ERα, and

substantially the same for estradiol-bound ERβ and unliganded ERβ;

(4) at least one member with a higher affinity for ERα than for ERβ, whose

affinity is substantially lower for estradiol bound ERα than for unliganded ERα, and

substantially the same for estradiol-bound ERB and unliganded ERB; and

(5) at least one member with a substantially higher affinity for ERβ than for

ERα, and whose affinity is substantially lower for estradiol-bound ER than for

unliganded ER.

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153. (Previously presented) The method of claim 135, wherein said

reference conformations include a plurality of conformations selected from the group

consisting of unliganded receptor, estradiol-liganded receptor, 4-OH tamoxifen

liganded receptor, estriol-liganded receptor, nafoxidene-liganded receptor, clomifene-

liganded receptor, premarin-liganded receptor, raloxifene-liganded receptor, ICI

182,780-liganded receptor, 16α-OH estrone-liganded receptor, and progesterone-

liganded receptor.

154. (Cancelled).

155. (Previously presented) The method of claim 135, wherein said method

distinguishes among 4-OH tamoxifen, nafoxidene, clomiphene, and raloxifene.

156. (Previously presented) The method of claim 135, wherein said

conformations comprise a first liganded conformation induced by a first ligand and a

second liganded conformation induced by a second and different ligand.

157. (Previously presented) The method of claim 135, wherein at least one

member of said panel is a Table 10 peptide,  $\alpha/\beta I$ ,  $\alpha/\beta II$ ,  $\alpha/\beta IV$ ,  $\alpha/\beta V$ ,  $\alpha I$ ,  $\alpha II$ ,  $\alpha III$ ,

βI, βII, and βIII, or peptides having the same characterizing binding activity against

reference conformations of ER, and markedly identical to at least one of said Table

10 peptides.